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# RESTORE OUR FORESTS, AND ALLOW A LITTLE SMOKE NOW TO PREVENT A LOT OF SMOKE LATER

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The smoky haze that has blanketed the Sacramento Region these past few days comes as a reminder of the far-reaching impacts that wildfires can have on our everyday lives even if we live far from the forest. And with more than two dozen fires burning across the state at just the start of the fire season, it's probably safe to assume that we will have more smoky days ahead.

Wildfire smoke is a mix of particles and gasses including carbon dioxide, water vapor, carbon monoxide, particulate matter (PM), hydrocarbons and other organic chemicals, nitrogen oxides, trace minerals and several thousand other compounds. Fine particulate matter (PM<sub>2.5</sub>) can have serious negative impacts on human health by causing respiratory problems and aggravating chronic heart and lung diseases.

According to the U.S. EPA, about one in every three people is at high-risk for experiencing PM<sub>2.5</sub>-related health impacts, and small children and the elderly are particularly sensitive. In addition, PM<sub>2.5</sub>, also known as black carbon, poses a risk to our climate.



([http://calforests.org/wp-](http://calforests.org/wp-content/uploads/2015/08/CMyaJiPUwAA6ufk.png)

[content/uploads/2015/08/CMyaJiPUwAA6ufk.png](http://calforests.org/wp-content/uploads/2015/08/CMyaJiPUwAA6ufk.png))

According to the California Air Resources Board's (CARB) Short-Lived Climate Pollutant Reduction Strategy, black carbon warms the atmosphere by absorbing solar radiation, influencing cloud formation, and darkening the surface of snow and ice, which accelerates heat absorption and melting. CARB's 2012 Black Carbon Emission Inventory found that 52% of California's black carbon emissions came from wildfires; in 2013, that number increased to 66%. California is in the midst of an intense wildfire season and this year may see yet another increase in the percentage of black carbon emissions due to wildfires.

There are tools available to us that can reduce smoke-related human health and climate impacts. Using prescribed fire and managed natural fires during the right weather conditions and in the right forest conditions can not only reduce fire-related health impacts compared to megafires, but they also release less black carbon per acre burned. In contrast to most megafires, managed and prescribed fires occur at times when overall air quality is relatively good. The amount of acreage they burn per day is relatively small, and their typically low-to-moderate intensity burns less of the forest.

For a comparison, the managed Lion Fire of 2011 had little to no effect on the regional air quality, whereas a wildfire, the McNally Fire of 2002, had significant impacts. The McNally Fire burned more acreage per day, consumed more fuel, and burned during a time when air quality in the area was already an issue. During the three weeks prior to the McNally Fire, particulate matter in the area did not exceed the federal standard and had exceeded the California standard six times. While the fire was burning, however, the federal particulate matter standard was exceeded four times and the California particulate matter standard was exceeded 164 times. (<http://calforests.org/wp-content/uploads/2015/08/prescribe-burns.jpg>)



Since many of our forests are so overgrown and dry, using prescribed and managed fire right now can be challenging, but these tools will be key to maintaining forest health in the long run. Thinning our forests to reduce the risk of large, high severity wildfires will also help restore our forests to a more resilient state and allow for wildfire to play its natural role in restoring the health of the forest without negatively impacting the health of Californians.



(<http://calforests.org/wp-content/uploads/2015/08/Nic-Enstice.jpg>)

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